

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>F-925-P</b>	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. <b>PCT/JP2005/002656</b>	International filing date (day/month/year) <b>10.02.2005</b>	Priority date (day/month/year) <b>10.02.2004</b>	
International Patent Classification (IPC) or national classification and IPC <b>B01D39/14 (2006.01) , B01J35/04 (2006.01) , B01D53/94 (2006.01)</b>			
Applicant <b>CATALER CORPORATION</b>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <b>5</b> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <b>3</b> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/JP2005/002656

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

international search (Rule 12.3 and 23.1(b))  
 publication of the international application (Rule 12.4)  
 international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished  
 the description:  
 pages 1, 3-17 as originally filed/furnished  
 pages\* 2, 2/1 received by this Authority on 08.12.2005  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:  
 nos. 2, 3 as originally filed/furnished  
 nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 nos.\* 1 received by this Authority on 08.12.2005  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:  
 sheets fig. 1-7 as originally filed/furnished  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/JP2005/002656Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

Novelty (N)	Claims	YES
	Claims 1-3	NO
Inventive step (IS)	Claims	YES
	Claims 1-3	NO
Industrial applicability (IA)	Claims	YES
	Claims 1-3	NO

## 2. Citations and explanations (Rule 70.7)

Document 1: JP 2003-161137 A (Toyota Motor Corp.), 06 June 2003, paragraphs [0015], [0016] and [0027] to [0033] (Family: none)

Document 2: JP 2004-19498 A (Toyota Motor Corp.), 22 January 2004, paragraphs [0024] to [0028] & US 2004/0018123 A1 & EP 1371826 A2

Document 3: JP 9-220423 A (Nippon Soken, Inc.), 26 August 1997, paragraphs [0010], [0011] and [0019] to [0022] (Family: none)

Document 4: JP 2002-361047 A (Nissan Motor Co., Ltd.), 17 December 2002, paragraphs [0028] to [0031] and [0050] (Family: none)

(1) Claim 1

The invention set forth in claim 1 is disclosed or suggested by documents 1 to 3 cited in the international search report; therefore, the invention in question lacks novelty and does not involve an inventive step.

The filter catalysts disclosed in documents 1 to 3 all comprise catalyst supporting base materials that have porosities and pore diameters within the ranges that are described as being suitable ranges in the present application. Furthermore, the filter catalysts disclosed

Box No. V      **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

in the abovementioned documents are coated with an oxide layer in a manner such that said oxide layer does not occlude the pores, and the methods for supporting said oxide layer upon the filter catalysts cannot be considered to be significantly different from the method that is employed in the present invention. Such being the case, it is likely that the filter catalysts disclosed in documents 1 to 3 will also have pores with a diameter of 1 to 20  $\mu\text{m}$  and a porosity of 11% or higher after the formation of the oxide layer, like the invention set forth in the abovementioned claim.

In addition, the technique for forming a catalyst supporting layer from an oxide powder with particle diameters of 1  $\mu\text{m}$  or less is well known in the technical field in question, as disclosed in document 1 and newly cited document 4. Consequently, it would have been easy for a person skilled in the art to conceive of using the catalyst supporting base materials from the inventions disclosed in documents 1 to 3 in order to produce filter catalysts which exhibit the pore characteristics that are set forth in the abovementioned claim. Furthermore, the present invention cannot be considered to exhibit superior filter characteristics as a result of configuring so that the filter catalysts have pore characteristics such as pore diameters of 1 to 20  $\mu\text{m}$  and a porosity of 11% or higher, even after consideration of the disclosures in the description of the present application.

(2) Claims 2 and 3

The inventions set forth in claims 2 and 3 are either the same as the invention disclosed in document 1

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cited in the international search report, or would have been easy for a person skilled in the art to conceive of in the light of documents 1 to 3, which are cited in the international search report, and document 4, which is newly cited.

As indicated in section (1), it is likely that the invention disclosed in document 1 will provide a filter catalyst which exhibits the pore characteristics that are stipulated in the abovementioned claims.

In addition, document 1 and document 4 indicate that an oxide powder with particle diameters of 1 µm or smaller was used to form a catalyst supporting layer on the surfaces of the pores in a catalyst supporting base material. Furthermore, it is within the common creative abilities of a person skilled in the art to select an oxide powder with a grain size distribution such that the oxide powder will cover the surfaces on the interior of the pores in the catalyst supporting base material without occluding said pores (in other words, a grain size distribution that will not cause an increase in the pressure loss) when producing the filter catalysts disclosed in documents 1 to 4.